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Dated: 11/26/2003

Signature: \_\_\_\_\_

(Sarah J. Goodwin)

Docket No.: 65858-0029  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Charles J. Koehler, et al.

Application No.: Not Yet Assigned

Confirmation No.:

Filed: Concurrently Herewith

Art Unit: N/A

For: FLUID CONDITION MONITORING USING  
BROAD SPECTRUM IMPEDANCE  
SPECTROSCOPY

Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT (IDS)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

Application No.: Not Yet Assigned

Docket No.: 65858-0029  
EV 078877250 US

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-0013, under Order No. 65858-0029. A duplicate copy of this paper is enclosed.

Dated: November 26, 2003

Respectfully submitted,

By 

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Registration No.: 51,472

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R0214800

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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Charles J. Koehler
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	65858-0029

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US-6,620,621-B1	09-16-2003	Cohenford et al.	
	AB	US-20030141882-A1	07-31-2003	Zou et al.	
	AC	US-6,560,352-B2	05-06-2003	Rowe et al.	
	AD	US-6,549,861-B1	04-15-2003	Mark et al.	
	AE	US-6,433,560-B1	08-13-2002	Hansen et al.	
	AF	US-6,380,746-B1	04-30-2002	Polczynski et al.	
	AG	US-6,377,052-B1	04-23-2002	McGinnis et al.	
	AH	US-6,278,281-B1	08-21-2001	Bauer et al.	
	AI	US-5,985,120	11-16-1999	Cholli et al.	
	AJ	US-5,660,181	08-26-1997	Ho et al.	
	AK	US-5,361,628	11-08-1994	Marko et al.	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		
	CA	JIANXUN HU, M.S., "The Characterization of Lubricating Fluids Using AC Impedance Spectroscopy", a dissertation, December 2000, Milwaukee, WI		
	CB	"Principal Components Analysis" (downloaded on 11/25/2003) from <a href="http://www.okstate.edu/artsci/botany/ordinate/PCA.htm">http://www.okstate.edu/artsci/botany/ordinate/PCA.htm</a>		
	CC	AAPO HYVARINEN, "Principal Component Analysis", 4/23/1999 (downloaded on 11/4/2003) from <a href="http://www.cis.hut.fi/~aapo/papers/NCS99web/node5.html">http://www.cis.hut.fi/~aapo/papers/NCS99web/node5.html</a>		
	CD	JAAKKO HOLLMEN, "Principal Component Analysis", 3/8/1996 (downloaded on 11/4/2003) from <a href="http://www.cis.hut.fi/~jhollmen/dippa/node30.html">http://www.cis.hut.fi/~jhollmen/dippa/node30.html</a>		
	CE	"Principal Component Analysis" (downloaded on 11/4/2003) from <a href="http://www.casaxps.cwc.net/FactorAnalysis.htm">http://www.casaxps.cwc.net/FactorAnalysis.htm</a>		
	CF	"Principal Components and Factor Analysis" (downloaded on 11/4/2003) from <a href="http://www.statsoftinc.com/textbook/stfacan.html">http://www.statsoftinc.com/textbook/stfacan.html</a>		
	CG	"Algorithms, The Beer Lambert Law" (downloaded on 11/26/2003) from <a href="http://www.galactic.com/algorithms/beer_lambert.htm">http://www.galactic.com/algorithms/beer_lambert.htm</a>		
	CH	"Algorithms, Classical Least Squares (CLS)" (downloaded on 11/26/2003) from <a href="http://www.galactic.com/algorithms/cls.htm">http://www.galactic.com/algorithms/cls.htm</a>		
	CI	"Algorithms, Discriminant Analysis, The Mahalanobis Distance" (downloaded on 11/25/2003) from <a href="http://www.galactic.com/algorithms/discrim_mahaldist.htm">http://www.galactic.com/algorithms/discrim_mahaldist.htm</a>		

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				First Named Inventor	Charles J. Koehler
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	65858-0029

	CJ	"Algorithms, Discriminant Analysis, The PCA/MDR Method" (downloaded on 11/25/2003) from <a href="http://www.galactic.com/algorithms/discrim_pca.htm">http://www.galactic.com/algorithms/discrim_pca.htm</a>	
	CK	"Algorithms, Inverse Least Squares" (downloaded on 11/25/2003) from <a href="http://www.galactic.com/algorithms/ils.htm">http://www.galactic.com/algorithms/ils.htm</a>	
	CL	"Algorithms, Least Squares Regression" (downloaded on 11/25/2003) from <a href="http://www.galactic.com/algorithms/least_squares.htm">http://www.galactic.com/algorithms/least_squares.htm</a>	
	CM	"Algorithms, Partial Least Squares" (downloaded on 11/25/2003) from <a href="http://www.galactic.com/algorithms/pls.htm">http://www.galactic.com/algorithms/pls.htm</a>	
	CN	"Algorithms, Principal Component Analysis Methods" (downloaded on 11/25/2003) from <a href="http://www.galactic.com/algorithms/pca.htm">http://www.galactic.com/algorithms/pca.htm</a>	
	CO	"Algorithms, Principal Component Regression" (downloaded on 11/26/2003) from <a href="http://www.galactic.com/algorithms/pcr.htm">http://www.galactic.com/algorithms/pcr.htm</a>	

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<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

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